

A NEW SPECIES OF *STRIDULIVELIA* FROM MEXICO, AND A
NEW SUBGENUS FROM MIDDLE AMERICA
(HEMIPTERA: VELIIDAE)¹

JOHN T. POLHEMUS

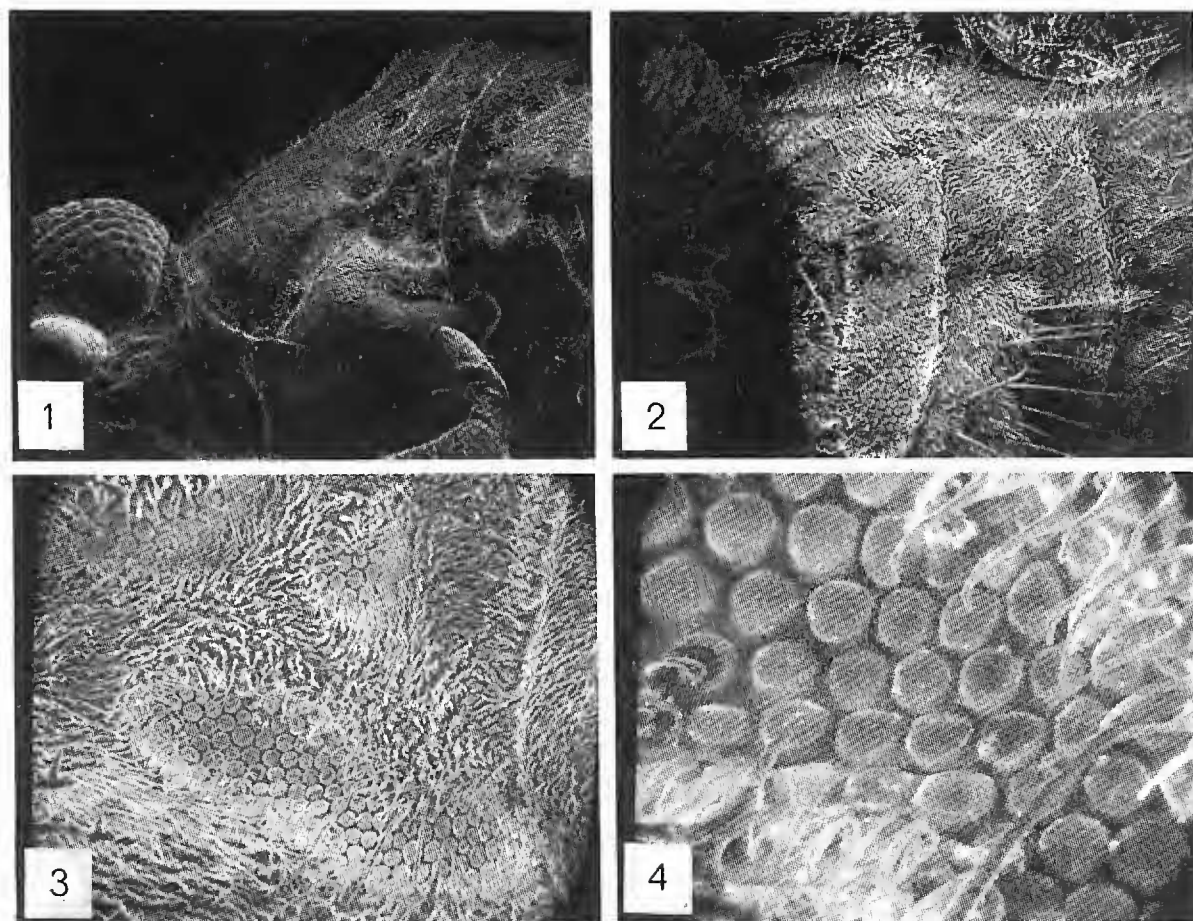
3115 S. York, Englewood, CO 80110

Hungerford (1929) proposed the new genus *Stridulivelia* (as a subgenus of *Velia*) to hold five new species of water striders from South America and one species from Middle America. The South American species all possess stridulatory mechanisms, but *cinctipes* (Champion), the Middle American species does not. Since then Drake and Harris (1938, 1941), Drake (1951, 1957) and Drake and Menke (1962) have added six more species. Another new species is described below.

I have examined all known species of *Stridulivelia*. Without exception they have numerous depressed hair-free round or elongate regions on various parts of the thorax and abdomen and on the jugum of the head (see Fig. 1; also see plates 1 and 2 in Drake and Menke, 1962). These depressed areas contain numerous round flat-topped pegs in a rather regular array (Figs. 2-4). The function of these structures is not known; thin sections examined under high magnifications (optical microscope) did not reveal any significant innervation (Polhemus and Moran, unpublished), so a hypothesized function as sound or electromagnetic receptors is refuted. No other group of veliids possess these depressed areas in a similar arrangement on the body, therefore Polhemus (1976) proposed that *Stridulivelia* be given generic rank.

Drake and Menke (1962) reviewed the Middle American and West Indian species of *Stridulivelia*. They pointed out that all Middle American species lack stridulatory structures. The West Indian species treated, *tersa* Drake and Harris from Trinidad, has a stridulatory mechanism, but Trinidad is zoogeographically part of South America. All South American species possess stridulatory structures. Drake and Menke apparently did not notice that the middle tarsi of all Middle American species have blade-like claws and the down-curving arolium is shaped like a blade (Fig. 5), whereas all South American species have slender claws and slender arolia. These differences and the vicariance pattern indicate an independent development of these two faunal groups, therefore I propose *Aenictovelina* new subgenus [*Ainiktos*, Gr., enigmatic, and *Velia*; feminine] to hold the four Middle American species, i.e., *cinctipes* (Champion), *expeixis* Drake and Menke, *pueblana* Drake, and *secerna* new species and type of the subgenus.

All specimens of the new species described below are in the Polhemus



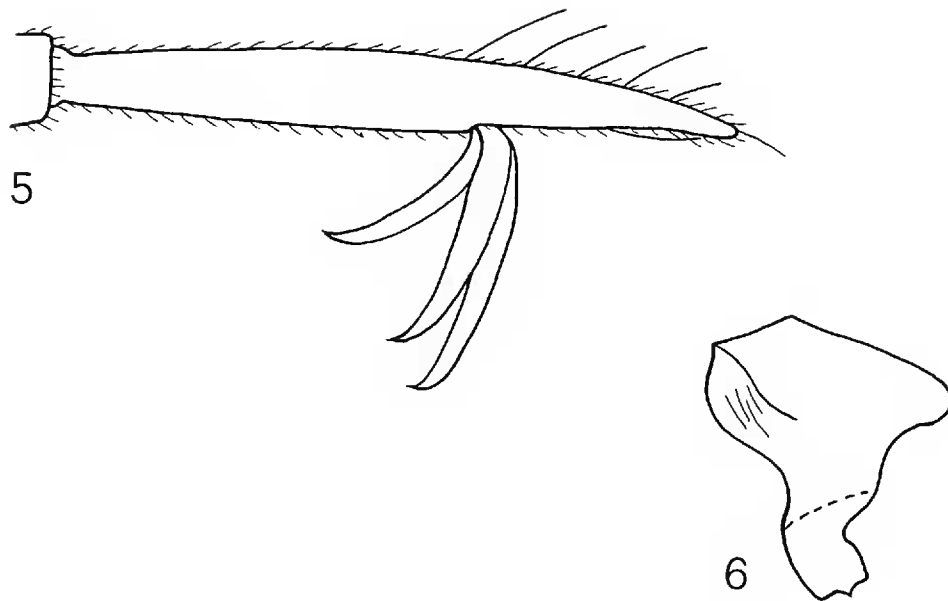
Figs. 1–4. *Stridulivelia (Aenictovelina) secerna* n. sp. Fig. 1. Thorax and head, showing depressed areas; Fig. 2. Depressed areas on abdomen ($\times 190$); Fig. 3. Depressed area ($\times 490$); Fig. 4. Pegs in depressed area ($\times 1950$).

collection. The holotype is irrevocably committed to later placement in a designated type repository. Paratypes will be distributed to various institutions.

Stridulivelia (Aenictovelina) secerna, new species

Macropterous male.—Elongate, brown; two wedge-shaped patches of silvery hairs anterolaterally on pronotum (1 + 1), and two similar elongate patches (2 + 2) laterally on each hemelytron. Legs, antennae, connexiva, lateral margins of pronotum and eyes, margins of coxal cavities yellow brown to orange brown. Dorsum covered with fine recumbent golden pubescence, sparser on head, absent on hemelytra except basally and laterally. Thoracic pleura almost immaculate; thoracic sterna and abdomen laterally beneath a row of deep pits, pruinose. Sterna of abdomen with coarse yellow pubescence, segments 5–7 shining medially.

Head with glabrous median furrow terminating posteriorly between two crescent shaped furrows (1 + 1) mesad of eyes. Width of eye/interocular



Figs. 5–6. *Stridulivelia* (*Aenictovelina*) *secerna* n. sp. Fig. 5. Tarsal segment III; Fig. 6. Male paramere.

space, 16/20 (60 units = 1 mm). Head length, 26. Rostrum reaching mid-way between anterior and middle coxae.

Pronotum length, 103; width across humeral angles, 97; slightly carinate on mid-line; coarsely pitted caudad of silvery patches, pits deep on margins and transverse row behind silvery patches, shallow on disc.

Abdomen long (166 caudad of posterior median angle of pronotum); width 67 at middle. Connexival spines short, barely produced. Seventh sternum tumid posteromedially, tumescence abruptly truncate and excavate posteriorly; sterna II and III distinctly carinate on median longitudinal line; pleura II–IV of male, II and III of female each with a median vertical furrow on both sides, and sometimes a small depressed spot on tergite V of male and IV of female. Genital segments long (47), set with long hairs. Male paramere as shown in Figure 6.

Antenna moderately long, stout, clothed with short recumbent pubescence, and longer setae ventrally on segments II–III; segment IV with scattered long setae; segment I curved, segment IV subfusiform; proportions I–IV, 57:44:37:32. Fore tibia with distal comb, also an adjacent black pad ventrally; middle tibia with distal comb; posterior tibia with blunt apical spur. Femora and middle tibia with rather evenly spaced long setae ventrally, 10–14 per leg segment; tibia thickly set dorsally with long semi-recumbent setae, hind femora and tibia clothed with such setae. Legs unarmed except posterior femur armed beneath with about 8 small black spines before middle, one larger black spine beyond middle (at 0.6 toward distal end) followed by 9 or 10 small spines decreasing in size distally; anterior to the latter is an irregular row of 7 similar spines. Posterior femur dark brown

ventrally, broadly annulated with dark brown beyond middle, dark on distal one-fourth. Measurements of legs:

	Femur	Tibia	Tarsal 1	Tarsal 2	Tarsal 3
Anterior	77	73	2	3	9
Middle	117	123	2	36	39
Posterior	113	112	3	25	25

Length, 4.75 mm, width (across humeral angles), 1.6 mm.

Macropterous female.—Very similar to male except legs and antennae lighter colored. Armature of posterior femur less pronounced; 3–4 small basal black spines, one slightly larger spine past middle and 5–6 smaller spines beyond; anterior row consisting of 8–10 small black spines reaching from basal one-third to distal end.

Length 4.65 mm, width 1.6 mm.

Material examined.—MEXICO: Holotype, macropterous ♂, and allotype, macropterous ♀, Chiapas, 11.2 km (7 mi) N of Arriaga, CL1246, XII-18-1969, J. T. Polhemus. Paratypes as follows: Chiapas, about 600 macropterous ♂♂ and ♀♀, same data as holotype; 1 macropterous ♂, Veracruz, 12.8 km (8 mi) NE Tlapacoyan, VII-16-1969, A. S. Menke (paratype of *Velia phriatra* Drake and Menke; manuscript name); 120 macropterous ♂♂ and ♀♀, Chiapas, W of Rizo de Oro, CL1331, I-14-1970, J. T. Polhemus.

This species is closest to *pueblana* Drake and *epeixis* Drake and Menke. In the Drake and Menke key, the males of *secerna* will key to *pueblana* and the females to *epeixis* on the basis of the vertical furrows on the abdominal pleura. The whitish last antennal segment given as a key character by Drake and Menke is not consistently diagnostic, because some specimens of all four species of the subgenus *Aenictovelina* have the last antennal segment yellow brown to whitish.

The tumid and posteriorly truncate male seventh abdominal sternum of *secerna* immediately separates it from all other species of the subgenus. Also, in *secerna* the metasternum in side view is highest medially, sloping posteriorly, whereas in the other three species the metasternum is highest at the posterior margin and is truncate posteriorly.

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Footnote

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SCIENTIFIC NOTE

LECTOTYPE DESIGNATION FOR *FRANKLINIELLA TRITICI CLARA* MOULTON

This taxon (Moulton, 1948, *Rev. de Entomologia* 19: 87) was described as a pale color form in a key to the species of *Frankliniella*, but neither the description of the type materials nor the designation of the type was given. Arnaud and Lee (1973, *Occ. Papers Calif. Acad. Sci.* 105: 35) enumerated the syntype series of 44 specimens which were so determined by Moulton and presently deposited in the California Academy of Sciences. This taxon was synonymized with the nominal species by Jacot-Guillarmod (1974, *Ann. Cape Prov. Mus. Nat. Hist.* 7: 827).

The entire series of syntypes was scrutinized. After 6 misidentified specimens were weeded out, the lectotype was selected and 37 paralectotypes from Illinois, Kansas, Arkansas, Louisiana, Texas, Florida and Cuba were inscribed. *F. tritici clara* ranges from brownish yellow to pale yellow in color with limited grayish brown wash on head, and usually with abdominal brownish blotchings, which are, however, practically indiscernible on some of the teneral specimens or on many of the mature specimens from the Far South (southern Texas and southern Florida) and Caribbean islands. A pale yellow female with weak abdominal blotchings from Arkansas (Monticello, flowers of buckeye, July 5, 1940, Delzie Demaree, #93, Lot 41-3161) was selected and so labelled for the lectotype.

K. Sakimura, *Bishop Museum, Honolulu, HI 96818*